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Summary of Estimated Manpower and Time Required to Fill Gaps in Economic Intelligence of the USSR as Concerns the Materials Division 1/

Field	Top Priority Gaps	Priority Gaps	Routine Gaps
	(expressed in Man-Months)		
Food and Agriculture, Forestry, and Fisheries	60	21	4
Chemicals	6	28	24
Ferrous Metals and Minerals	282	27	18
Non-Ferrous Metals and Minerals	17	42	52
Special Commodities	35	12	8
Petroleum	88	50	117
Coal	18	19	50
Totals	506 or 42 man-years	199 or 17 man-years	273 or 23 man-years

Total of Top Priority plus Priority Gaps - 705 Man-Months or 59 Analysts in One Year.

Total of All Gaps - 978 Man-Months or 82 Analysts in One Year.

1/ It must be appreciated that the estimates made for each field were prepared by different individuals, and that the possibility of using dissimilar "measuring sticks" does exist. It is considered, however, that the totals reflect a balancing-out.

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B. CHEMICALS

Exploitation of Material in Washington

Gaps	By D/M	By Others		Exploitation of Material Outside of Washington
	Man Months	By Whom	Man Months	By whom
Top Priority				25X1X4
1. Explosives & Propellants (all aspects)	3 M.M. utilizing Ordnance, Air Corps, G-2, State, SO files	G-2 A-2 ONI (Have requested a project covering all Services) D/Z	12 M. M. 6 M. M. 6 M. M.	[redacted]
2. Carbide (all aspects)	3 M. M. utilizing IR, D/M files, Library			State - concerted effort to collect company literature of foreign companies showing products manufactured, etc.
Priority				
1. Location of chemical plants by area and their production	6 M. M. utilizing IR, D/M files, Library, SO	O/SI GR	6 M. M.	(The foregoing applies to all efforts listed regardless of classification.)
2. Potentialities of special projects. Rocket fuel additives, special military chemicals	6 M. M.	Depending on data from G-2, A-2, ONI and O/SI		
3. Petrochemicals (all aspects)	4 M. M.	M/T	4 M. M.	
4. Sodium Cyanide (all aspects)	2 M. M.	O/SI	4 M. M.	
5. Chemical Warfare Plants	6 M. M.	O/SI Chem. C.	6 M. M. 6 M. M.	

Exploitation of Economic Intelligence to Fill Gaps in Information on USSR Economy

A. Food and Agriculture, Forestry, and Fisheries

Gaps	Exploitation of Material in Washington: By D/M1/ Man-Months	Exploitation of Material in Washington: By Others	Exploitation of Material in Washington: Man-Months	Exploitation of Material Outside of Washington: By Whom
Top Priority				
1. Yields of Field Crops	12 M-M	FOIAb3b [redacted] FDD, OFAR, US Weather Bureau		Air Weather Service. The basic work will be done by a special section of 12 personnel in the Military Climatology Division, requiring 144 man-months. The results from the AWS project can be utilized by all IAC groups for other purposes.
2. Grain, Meat, Fats and Oils, Potatoes and Vegetables, Sugar (Production by regions)	18 M-M	Collaboration with USDA and State Department	3 M-M	Agricultural Attache, American Embassy, Moscow.
3. Industrial Timber (Production by regions)	10 M-M	Collaboration with the Foreign Economic Division of the US Forest Service	3 M-M	State Department, [redacted] 25X1A8a
4. Fibers, Fish, Leather (Production by Commodities and regions)	10 M-M	Collaboration with USDA, Interior Department, Commerce Department	2 M-M	State Department, [redacted]
5. Stocks (All Commodities) Size and Location	10 M-M	None	None	[redacted] 25X1X4

1/ Utilizing D/M files, Libraries for Russian and other language publications, FOIAb3b [redacted] Industrial Register, etc.

Continued

Priority (All Commodities)					
1. Requirements: Military	3 M-M	Army, Navy, Air Force	2 M-M	[redacted]	25X1X4
Civilian	4 M-M	None	None	State Department.	
2. Exports-Imports, by countries of destination or origin	6 M-M	D/S	4 M-M	None.	
3. Food Processing and Textile Plants (capacity, etc.), by commodities and location	8 M-M	GR	None	[redacted]	25X1X4
Routine (All Commodities)					
1. Inputs and Requirements (fuel, transport, raw materials, manufacture, etc.)	4 M-M	D/S	None	None.	

Foreward

1. The Materials Division of the Office of Research and Reports is responsible for conducting basic research in the field of materials, pointing to foreign economic intelligence affecting the national security of the United States. This broad field includes petroleum, solid fuels, chemicals, ferrous and non-ferrous metals and minerals, and food and agriculture.

2. From an overall economic viewpoint, the capabilities of a foreign nation to endanger the national security of the United States includes the manpower, material, industrial, processing, and transport resources of that nation. The intentions of a foreign nation to endanger the security of the USA may be reflected in the changes in utilization of these resources. This Division is therefore conducting research to determine within the materials field those aspects that may throw light on the economic capabilities and intentions of a foreign power.

The criteria used in the selection of specific commodities within a particular field may be found in the individual papers prepared for this study.

3. The main purposes of this paper are to show the serious gaps in our knowledge of materials as concerns the USSR, to give an indication of the time and manpower required to fill these gaps, to give an evaluation of the sources of information and facilities used to gather the intelligence information used, to make the estimates, and to provide such recommendations as to obtain optimum intelligence results in the shortest period of time.

4. The first part of this paper shows the gaps within our knowledge of the Soviet materials position for the following broad fields:

Food and Agriculture, Forestry and Fisheries
Chemicals
Ferrous Metals and Minerals
Non-Ferrous Metals and Minerals
Special Commodities
Petroleum
Coal.

The gaps were divided into three parts to indicate the relative importance of all the gaps noted by the Division:

Top Priority
Priority
Routine

In addition, estimates were made of the time and manpower required by D/M to exploit the information known to be in Washington. These were expressed in terms of man-months. Also, indications were made where supporting efforts could be made by other units within CIA and in other Agencies. For exploitation of economic information outside of Washington, the Division noted the agency capable of support.

5. The second part of this paper gives each Branch's evaluation of the "sources" of information and "facilities" used to assemble the economic intelligence required to make estimates.

Conclusions

1. It is premature to make certain recommendations that relate to the time and effort that this Division should put in to eliminate the most important gaps within our knowledge of the USSR, without consideration of allocation of time and manpower required for other areas, such as the European Satellites, the Far East, the Near East, Western Europe, et cetera. This study should be used only as a guide to our most important problem - the USSR - and broad allocations made somewhat arbitrarily as to the effort to be put on the USSR as well as the other areas.

2. There is one serious gap not covered in the individual Branch papers - the economic aspects of the Soviet Atomic energy program. This field is one of the greatest unknowns in our intelligence information. Since the political, military and economic policies of the USA are subject to considerable change because of the Soviet's atomic strength, it is considered that sufficient research should be made by ORE into the economic aspects of the program. It is recognized that OSI had assumed the total responsibility for the Soviet atomic energy program and required only such support from ORR as OSI considered necessary. However, such support is sporadic and fragmentary, given a low priority because of its informal nature, subject to inconsistencies, and without correct relationship one phase to another. It is the contention of this Division that intelligence research on a program of such high priority and security classification (from the Soviet viewpoint) as the USSR atomic energy program should be made on as broad a plane as possible, utilizing to the fullest the resources of both OSI and ORR, with the highest order of cooperation between both.

Specifically, ORR should have the opportunity to conduct intelligence research in and estimate (a) the specific and total effects of the USSR's atomic energy program on the economy of the area, and (b) the capabilities of the USSR to provide the financial, material, transport, fuel and power, machinery and equipment, and, management and manpower resources to an atomic energy program, as well as to other economic-industrial programs.

It was therefore proposed that ORR set up a special Branch for the purpose of focusing ORR's interests and activities in the nuclear energy field in one place. This Branch was to draw upon the resources of all other Branches of ORR for intelligence support and in turn to be the first point of support to OSI. At the present time, OSI is objecting to the need for ORR to conduct intelligence research on the economic-industrial aspects of the Soviet Orbit atomic energy program. The matter is under consideration by the AD/RR and will be a matter of negotiation with the AD/SI.

It is estimated that the total number of man-months required to exploit information in Washington in an attempt to fill the important gaps in the field would be roughly in the order of 100 man-months (or 8 analysts in one year) throughout all of ORR.

COMMODITY STUDIES

List A includes important commodities studied at this time.

List B includes important commodities not studied at this time because of time and manpower limitations.

List C includes those commodities not considered important at this time from an intelligence viewpoint.

List A	List B	List C
Petroleum Products		
Crude oil	Kerosene	Tars and road oils
Aviation gasoline	Fuel oil	Miscellaneous light oils
Diesel	Residual oils	Liquified petroleum gas
Jet fuel	Greases	
Motor gasoline	Natural Gas	
	Aviation and motor oils	
	Coke	
Solid Fuels		
Anthracite coal	Peat	
Bituminous coal	Firewood	
Lignite	Brown coal	
Ferrous Metals and Minerals		
Iron ore	Iron and steel plants a/	
Nickel	Electric furnaces a/	
Molybdenum	Metallurgical coal and coke	
	Iron and steel scrap	
	Chromite	
	Tungsten	
	Vanadium	
	Manganese	
	Fluxes and Refractories	
Non-Ferrous Metals and Minerals	**Non-Ferrous Metals**	
Copper		
Lead	Magnesium	
Tin	Arsenic	
Antimony	Beryllium	
Zinc	Columbium	
Diamonds	Tantalum	
Aluminum	Tellurium	
Cobalt	Thallium	
Mercury	Titanium	
Graphite	Zirconium	
Mica	Bismuth	
Cadmium		
Quartz crystals	**Non-Metallic Minerals**	
Monazite		
Thorium	Asbestos	Alum
Uranium minerals	Cement	Barite
	Fluorspar	Boron
	Gypsum	Bromine
	Lime	Corundum
	Limestone	Cryolite
	Phosphates	Dolomite
	Nitrates	Emery
	Potash	Feldspar
	Pyrites	Granite
	Salt	Iodine
	Sulfur	Kyanite
	Bricks and clay	Magnesite
		Marble
		Sandstone

a/ Industry studies

List A

List B

List C

Non-Metallic Minerals (Cont'd)

Silicon
Slate
Soda
Talc
Vermiculite

Special Commodities

Barium
Caesium
Calcium
Cerium and other rare earth metals
Gallium
Gold
Hafnium
Iridium
Lithium minerals
  Spodumene
  Amblygonite
  Lepidolite
Osmium
Palladium
Platinum
Potassium
Radium
Rhodium
Rubidium
Ruthenium
Silver
Sodium
Strontium minerals
  Celestite
  Strontianite

Chemicals

Ammonia
Nitric acid
Chlorine
Caustic soda
Soda ash
Sulfuric acid
Coke chemicals
  Benzol
  Phenol
  Toluol
  Etc.
Rubbers
  Synthetic
  Natural
Explosives - Propellants
Carbon blacks
Sulfur and pyrites
Metallic sodium
Methyl alcohol
Formaldehyde
Rubber chemicals
Hydrogen peroxide
Sodium cyanide
CW & BW Production and Basic chemicals
Potassium chlorate
Freons
Rayon and nylon for tire cord
Synthetic fiber
Raw materials for synthetic fibers
Rubber fabricating plants
Calcium carbide
Chemical equipment
Phosphorus
Tetraethyl lead
Petro-chemicals
Acetylene chemicals
Glycerine - Glycols
Rocket fuels, solid and liquid
Petroleum additives
Electrodes
Special containers - for chemicals, both mobile and portable
Anti-biotics, sulfa drugs
Pesticides
Synthetic resins and raw a/ materials for plastics and synthetic fibers
Paints, varnishes and lacquers
Most pharmaceuticals
Naval Stores
Pigments and dyes
Oils and Fats, industrial
Pulp and paper
Glass
Lime
Soaps and Detergents
Ethyl alcohol
Fertilizers
  Nitrogenous
  Phosphate
Cellulose (purified)
Plastics
Plasticizers for:
  Rubber
  Plastics
  Explosives
  Solid rocket fuels
Silver (sheets), silver-lined equipment required for special chemical purposes

List A	List B	List C
Agricultural Products		
Food and Feed grains	Forage crops	Bristles
Fats and oils	Vegetable oils	Condiments
Potatoes and Vegetables	Kapok	Beverages
Sugar	Corn	Tobacco
Vegetable fiber	Coconut	Akhorka
Cotton	Cacao	Feathers and Down
Flax	Olive	
Livestock and poultry products	Palm	
Meat	Poppy	
Hides and leather	Oiticica	
Wool	Miscellaneous oils	
Forest Products	Vegetable fibers	
Lumber	Jute	
Pit props	Sisal	
Railroad ties	Henequen	
Pulpwood and paper	Abaca	
Other industrial timber products	Ramie	
	Silk	
Fish	Rubber Plants	
Hard Fibers and Hemp	Kok-saghyz	
Synthetic fibers	Tau-saghyz	
	Guayule	
	Vatochnik	
	Eukommia	
	Casein	
	Dairy Products	
	Milk	
	Cheese	
	Agricultural Machinery and equipment	
	Mohair	
	Eggs	
	Cork	

Priority (continued)

		By D/M	By Others	
		Man Months	By whom	Man Months
6.	Special containers for chemicals; mobile and portable	4 M. M.	D/S	4 M. M.

Routine

1.	Chemicals in List A of Commodity Studies, all of which are of equal importance	24 M. M. utilizing all available facilities including examination of German documents and foreign journals	O/SI FDD	12 M. M. 12 M. M.

C. Ferrous Metals and Minerals

Gaps	Exploitation of Material in Washington: By D/M	Exploitation of Material in Washington: By Others	Exploitation of Material Outside of Washington: By Whom
Top Priority:	Man-Months	By Whom	
1. Production of Iron Ore, including iron ore reserves	3 M-M. Reviewing material used in basic report & exploring new information. Then on Continuing basis.	FDB - Set up Task Forces to review and translate pertinent Information available in foreign language publ. throughout city. Bureau of Mines. D/Z	All collection agencies in field to locate pertinent information in depositories abroad, including those in foreign languages to obtain background material which does not change with elapse of time. [redacted] 25X1X4 [redacted] 25X1X4
2. Production of Metallurgical Coke and Charcoal (location and capacity)	3 M-M. Reviewing material used in basic report and exploring new information. Then on continuing basis.	FDB - See 1. above Bureau of Mines D/Z.	See 1. above
3. Supply of Iron and Steel Scrap.	Current.	FDB - Current. Little historical information of value. D/Z D/S	US Embassy, Moscow. A ll reports on scrap collections within the USSR. All collection agencies. For shipments of scrap thru key transportation points. State Department. Trade agreements. Reports on scrap shipments. 25X1A8 [redacted] Trade agreements. Reports of scrap shipments.
4. Production of Ferro-A lloys, including Reserves. Manganese, chromite, molybdenum, nickel, tungsten, vanadium, etc.	90 M-M. to complete basic research. Then on continuing basis.	FDB - See 1. above. Bureau of Mines. D/Z	See 1. above

Gaps	Exploitation of Material in Washington: By D/M Man-Months	Exploitation of Material in Washington: By Others By Whom	Exploitation of Material Outside of Washington: By Whom
Top Priority:			
5. Plant study of Open Hearth Furnaces. 6. Plant study of Electric Furnaces	180 M-M. To accomplish basic research.	FDB - See 1. above. Bureau of Mines D/Z GR	See 1. above
7. Consumption of Raw & Special Steels, & Semi-finished steel products	6 M-M	FDB Bureau of Mines D/Z	A ll Collection Agencies
8. Military Requirements for semi-finished steel products	N.A.	Dept. of Defense	
Priority:			
1. Exports and Imports of Iron Ore.	3 M-M	FDB - On continuing basis Bureau of Mines. OIT, Commerce Dept. D/Z	State Dept. Trade Agreements [redacted]
2. Analyses of Iron Ores from each Deposit and Mine	3 M-M	FDB - See 1. above Bureau of Mines D/Z Sovmat. (?)	
3. Consumption of Iron Ore	3 M-M To review material used in basic report and to explore new information.	FDB Bureau of Mines D/Z OO	

25X1X4

Exploitation of Material in Washington			Exploitation of Material Outside of Washington
Gaps	By D/M	By Others	By Whom
Priority:	Man-Months	By Whom	
4. Trade in Ferro-Alloys	Continuing and current study of D/M	Continuing and current study of D/S FDB OIT, Dept of Commerce Bureau of Mines D/Z	25X1A8a State Dept. [redacted]. Trade agreements and reports of actual shipments. All Collection Agencies. Reports of shipments thru key transportation points. [redacted] 25X1A8a
5. Plant Study of Blast Furnaces.	12 M-M. To review material used in basic study & to exploit new information	FDB. See 1. above in Top Priority. GE	See 1. above. Top Priority.
6. Use of Substitutes for Ferro-Alloys in short Supply.	3 M-M	FDB. Continuing study Bureau of Mines. D/Z	All Collection Agencies.
7. Practices in mfg. and use of Special Steels	3 M-M	FDB Bureau of Mines	All Collection Agencies.
Routine			
1. Production Facilities at Individual Mines, Smelters, & Concentrating Plants, for all ferrous Metals.	12 M-M	FDB - see 1. above Top Priority Bureau of Mines D/Z	See 1. above, Top Priority
2. Production Facilities of individual Coke Plants	3 M-M. To review material used in basic study and exploit new information	FDB - see 1. above, Top Priority Bureau of Mines D/Z	See 1. above, Top Priority.

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Exploitation of Material in Washington			Exploitation of Material Outside of Washington
Gaps	By D/M	By Others	
Routine:	Man-Months	By Whom	By Whom
3. Technological Research in Iron and Steel Industry.	3 M-M	FDB O/SI Bureau of Mines D/Z	All collection Agencies
4. Production of pig iron, raw steel, special steels and semi-finished steel products, by regions.	Continuing study	FDB - Bureau of Mines. Both on continuing basis. ECA - Has some information and estimates. D/Z D/S	All Collection Agencies. On a continuing basis. ECA. May have some valuable material in offices abroad.

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D. Non-Ferrous Metals and Minerals

Gaps	Exploitation of Material in Washington: By D/M			Exploitation of Material in Washington: By Others		Exploitation of Material Outside of Washington: By Whom
Top Priority	Covering Commodities	Man Months	Utilizing	By Whom	Man Months	
1. Stocks, size and location	List I	2	D/M files, IR, USAF, [redacted] 25X1A2g Reports, Library, I.A.C. & other Government Agencies	D/Z		[redacted] 25X1X4
2. Requirements	List I	5	Military: n.a. Civilian: IR, [redacted] 25X1A2g Library, I.A.C. & other Government Agencies	Army, Navy, Air Force, [redacted] 25X1A8a State & D/Z		" " " " " " " "
3. Production	List II	10	D/M, IR, USAF, [redacted] 25X1A2g Library, [redacted] Reports, I.A.C. & other Government Agencies	[redacted] 25X1A8a D/Z & State		" " " " " " " "

D. Non-Ferrous Metals and Minerals (Cont'd)

Gaps	Exploitation of Material In Washington — By D/M: Covering Commodities	Man Months	Utilizing	By Others: By Whom	Man Months	Exploitation of Material Outside of Washington — By Whom
Top Priority						
Priority						
1. Production	List I less List II	12	D/M, IR, OSAF, Library, [redacted] 25X1A2g ...ports, ... & other Government Agencies	25X1A8a [redacted] and State		25X1X4 [redacted]
2. Plant Facilities	List I	30	D/M, IR, [illegible], 25X1A2g Library, [redacted] Reports, I.R.C. & other Government Agencies	25X1A8a [redacted] D/M & State		" " " " " " " "
Routine						
1. Manpower, Power, Transportation, Trade, Supplies, Production, Requirements & Plant Facilities	List I & III	52	D/M, IR, OSAF, Library, 25X1A2g [redacted], I.R.C. & other Government Agencies	25X1A8a [redacted], D/M, OSDA and State		" " " " " "

List "I"

Aluminum
Antimony
Arsenic
Beryllium
Cadmium
Cobalt
Columbium
Copper
Lead
Magnesium
Mercury
Tantalum
Tellurium
Thallium
Tin
Titanium
Zinc
Zirconium

Graphite
Mica
Quartz Crystals

List "II"

Arsenic
Beryllium
Columbium
Magnesium
Tantalum
Tellurium
Thallium
Titanium
Zirconium

Asbestos
Fluorspar
Sulphur & Pyrites

List "III"

Alum
Boron
Bromine
Iodine
Salt
Soda

Cement
Gypsum
Lime
Limestone
Corundum
Emery
Kyanite
Nitrates
Phosphates
Potash

Barite
Dolomite
Feldspar
Granite
Marble
Sandstone
Slate
Talc
Brick and
Clays

Gaps	Exploitation of Material in Washington: By D/M Covering Commodities	Man Months	Utilizing	Exploitation of Material in Washington: By Others — By Whom	Man Months	Exploitation of Material Outside of Washington: By Whom
Top Priority						
1. Total requirements, consumption, stocks and location	All Commodities	15	IR, Library, D/M files, [redacted] Reports, State IAC and other Government Agencies	D/Z, D/I D/S O/SI Army Navy Air Force		[redacted] 25X1X4
2. Production including location of processing plants	All commodities except industrial diamonds and platinum	20	"	"		"
Priority						
1. Imports, exports, substitutes and external sources	All commodities	12	"	"		"
Routine						
1. Manpower, fuel power, and transportation.	All commodities	8	"	"		"

25X1A2g

SPECIAL COMMODITIES

Caesium
Calcium
Cerium and other rare earth metals
Gallium
Gold
Silver
Hafnium
Lithium minerals
Platinum group minerals
Radium
Strontium minerals
Uranium minerals; Thorium, Monazite
Industrial Diamonds

Gaps	Exploitation of Material in Washington			Exploitation of Material Outside Washington
	By D/I	By Others		By Whom
	Man Months	By Whom	Man Months	
Top Priority				
1. Production of Crude				25X1A8a
Production by regions	3	D/Z	2	[redacted]
Quality by regions	3	Bureau of Mines	1	
Drilling equipment and materials	2	D/Z D/S	1 1	
Flow pattern of crude	6	D/Z	2	
2. Refining				
Specific compositions and capacity of plant facilities	6	D/Z, GR	3	
Location of plants completed after 1948	6	D/Z, GR	3	
Production schedules	6	D/Z	3	
Synthetic plant location and capacity	3	D/Z, GR	3	
Origin of charge stock	6	D/Z	3	

Gaps	Exploitation of Material in Washington			Exploitation of Material Outside Washington
	By D/Z	By Others		By Whom
	Man Months	By Whom	Man Months	
3. Distribution				
Military requirements by product, by area of consumption	3	Military D/Z	3 1	
Total civil requirements	3			
Area requirements	6	D/Z	3	25X1A8a
Specific routes	2	D/Z D/S	1 1	[redacted]
Packaging	6	D/Z	3	
Quantity of stocks by product	12	D/Z	6	
Storage locations, capacities, and types	6	D/Z	3	
4. Technology				
New refinery processes	6			
Product quality requirements of military equipment	3	D/Z	1	
Priority				
1. Production				
Reserves	2	Bureau of Mines	1	
Exploration program	3	D/Z	2	

Gaps	Exploitation of Material in Washington			Exploitation of Material Outside Washington
	By D/I	By Others		By Whom
	Man Months	By Whom	Man Months	
2. Refining				
Input requirements of major items	12	D/Z	6	
3. Distribution				
Civil requirements by consuming groups	3	D/Z	1	
Handling facilities	6	D/S D/Z	2 3	
Imports-Exports	3	D/Z D/S	1 1	
Acquisition of critical items from outside sources	6	D/Z D/S	3 1	
4. Technology				
Exploration and drilling techniques	3	OSI D/Z	2 1	
Product quality requirements of civil equipment	3	D/Z	1	
Application problems	3	D/Z	3	
Instrumentation	6	D/Z D/I	3 2	

25X1A8a

[redacted]

Gaps	Exploitation of Material in Washington			Exploitation of Material Outside Washington
	By D/Z	By Others		By Whom
	Man Months	By Whom	Man Months	
Routine				
1. Production of Crude				25X1A8a
Production by field	12	D/Z	6	[redacted]
		Bureau of Mines	3	
Quality by field	12	D/Z	6	
		Bureau of Mines	3	
Producing well characteristics	12	Bureau of Mines	3	
Geological characteristics of major fields	6	Bureau of Mines	3	
Labor force	3	D/S	1	
2. Refining				
Operating procedures	12	D/Z	6	
State of repair of equipment and plant efficiency	12	D/Z	6	
Flow charts	12	D/Z	6	
Labor force	3	D/S	1	
3. Distribution				
Civil requirements by products	6	D/Z	3	

Gaps	Exploitation of Material in Washington			Exploitation of Material Outside Washington
	By D/I	By Others		By Whom
	Man Months	By whom	Man Months	
3. Technology				
Basic research	12	OSI	3	25X1A8a
Training programs	3	D/S OSI D/Z	1 1 1	[redacted]
Technical specialities and utilization of Satellite personnel removed to the USSR	12	OSI Biographic Register	3 3	

C. COAL

Gaps	Exploitation of Material in Washington			Exploitation of Material Outside Washington
	By D/C	By Others		By Whom
	Man Months	By Whom	Man Months	
Top Priority				
1. Production				
Output of coking coal by basins	6	D/Z	2	[redacted] 25X1X4
Sources of mining equipment (plant studies)	3	D/Z D/I	2 2	
2. Distribution				
Civil requirements for total industry and transportation	3	D/Z D/S D/I	2 1 1	
Requirements by area	3	D/Z D/S D/I	2 1 1	
3. Utilization				
Input requirements per unit of production of industrial items	3	Bureau of Mines	1	25X1A8a [redacted]

Gaps	Exploitation of Material in Washington			Exploitation of Material Outside Washington
	By D/M	By Others		By Whom
	Man Months	By Whom	Man Months	
Priority				
1. Production				25X1A8a
Labor conditions	3	D/Z	1	[redacted]
Mechanization	3	D/I	1	
Input requirements for electric power by basins	3	D/S D/Z	2 1	
2. Distribution				
Imports	1	D/S D/Z	1 1	
Specific routes of distribution	1	D/S D/Z	1 1	
3. Stocks				
Total quantity in key industrial centers	6	D/Z	3	
Quantity of metallurgical coke at industrial plants	2	D/Z	3	

SECRET

Gaps	Exploitation of Material in Washington			Exploitation of Material Outside Washington
	By D/M	By Others		By Whom
	Man Months	By Whom	Man Months	
Routine				
1. Production				
Production by major fields and mines	12	D/Z	3	
Reserves	2	Bureau of Mines	1	
Input requirements for mining equipment	3	Bureau of Mines	1	25X1A8a [redacted]
Size of labor force	6	D/Z D/S	2 2	
2. Preparation				
Coal washing and handling facilities	3			
Briquetting plants	3	D/Z	2	
3. Distribution				
Requirements by branches of industry	12	D/Z D/I	3 3	
4. Stocks				
At mines	6	D/Z	3	
Analysis of coal by major fields and mines	3	Bureau of Mines	1	

SOURCES AND FACILITIES

A. Food and Agriculture, Forestry, and Fisheries.

Sources of information utilized are as follows:

a-1. The STATE DEPARTMENT provides the greatest quantity and the best quality of intelligence information, primarily from the American Embassy, Moscow, and secondarily from its net of foreign economic reports from other missions.

The Agricultural Attache Office, American Embassy, Moscow, supplies, in addition to its regular reporting service covering the agricultural industry, full translations of pertinent agricultural and weather information appearing in the Moscow and provincial newspapers available to the Embassy. This service is invaluable as a basic source in this critical area.

There is a close cooperation between the agricultural section of the State Department and the Food and Agriculture Branch of O/RR in arriving at estimates of acreage, yield and production of the field crops, as well as livestock products of the USSR.

a-2. The OFFICE OF FOREIGN AGRICULTURAL RELATIONS, Department of Agriculture, complements and supplements the estimates made by CIA. The Food and Agriculture Branch relies heavily on the published and unpublished analyses of this non-IAC agency in producing estimates on food and fiber production in the USSR. There is a close coordination with OFAR in arriving at the necessary estimates for the USSR and the various Soviet Orbit countries.

a-3. The INDUSTRIAL REGISTER, which is a depository of economic information pertaining to the location and production of processing plants that utilize agricultural, fisheries, and forestry raw materials, is a primary source of valuable information.

a-4. O/G MAP LIBRARY is an indispensable instrument in the analysis of intelligence pertaining to food and agriculture. Every phase of production of the products of field crops, livestock, forestry, and fisheries is definitely associated with specific geographic locations.

The best potential sources of basic materials necessary for research activities that require increased exploitation are:

b-1. The LIBRARIES of the IAC agencies, of Congress, and Agriculture, the periodical publications of the USSR pertaining to the Food Industry, The Meat and Dairy Industry, the Cotton Industry, etc., as well as statistical and other treatises covering all phases of the food and agricultural branches of the Soviet economy, are pregnant with information required to fill many of the gaps in our present knowledge of the USSR.

b-2. The MILITARY CLIMATOLOGICAL DIVISION, Air Weather Service, which has provided basic weather data necessary in making yield estimates of important crops, is indispensable to the work of the Branch and should be increasingly exploited.

b-3. THE FOREST SERVICE, RESEARCH DIVISION, has been contributing to the forestry section of the various NIS studies and has provided consultant service on the economic and technical aspects of the forestry industry of the USSR. Their files should be further exploited.

b-4. The WILD LIFE AND FISHERIES RESEARCH DIVISION, Department of Interior, has been contributing to the fisheries section of the various NIS studies and has provided consultant service on the economic and technical aspects of fisheries of the USSR. Their files should be further exploited.

b-5. The files of the DEPARTMENT OF COMMERCE, which contain valuable information regarding textiles and other commercial products together with sources of the pertinent raw materials and the quantities entering international trade, should be increasingly exploited.

b-6. FDD FILES contain valuable sources of information that have not as yet been fully exploited.

25X1X7 b-7. [redacted] AND TRANSLATIONS OF RUSSIAN DOCUMENTS have been found of great value but have not been fully exploited.

Among the sources of lesser importance are:

25X1A8a [redacted]

c-2. DEPARTMENT OF DEFENCE. The attache reports of the Army, Navy, and Air Force as well as the reports of their Intelligence Divisions provide incidental information on the USSR ranging from a specific to a general nature. Such information infrequently gives a clue to situations of interest to the Branch.

c-3. NATIONAL INTELLIGENCE SURVEYS. These basic studies only occasionally provide information on the economic structure of the USSR and the Soviet Orbit countries.

FOIAb3b [redacted]

25X1X4 [redacted]

[redacted] of use to the Food and Agriculture Branch.

25X1X7 c-6. [redacted] AND FRENCH INTELLIGENCE REPORTS seldom contain food and agricultural information that is as well based as similar reports from American agencies. These reports have seldom been of more than incidental interest to the Branch.

c-7. U.S. ECONOMIC PUBLICATIONS AND PERIODICALS sometimes give leads or clues that may be useful, but as a rule the information given is available in other sources listed in the a and b groups.

c-8. BIR (Biographical Register) is of secondary significance in the analysis of intelligence pertaining to food and agriculture. The Branch makes only infrequent use of this facility.

c-9. GRAPHICS REGISTER has not as yet been exploited by the Food and Agriculture Branch.

d-1. The Food and Agriculture Branch has not as yet exploited PERSONAL CONSULTANTS outside of IAC or other Government agencies. A list of persons desired as consultants is being submitted for security clearance.

d-2. No SPECIFIC PROJECTS have as yet been farmed-out to individuals or organizations outside IAC or other Government agencies.

e. The SHORTCOMINGS of each source and facility vary considerably in certain features, but all have a tendancy to report information with a bias or from a certain point of view. For example, the Office of Foreign Agricultural Relations reports from the view point of the American farmer, the State Department from the political point of view, etc.

1) The TIME it takes to exploit sources and facilities varies from an hour or more to obtain information from the Department of Interior to weeks expended in research in libraries.

2) RELIABILITY also differs widely from questionable information given by defectors to concise statements made in the Industrial Register.

a) In evaluating the importance and/or validity of information received by the Food and Agriculture Branch a cross check is always made. This checking is accomplished by utilizing a combination of two or more of the a, b, c sources of information.

The depository of this checking material may be in the files of the Branch or in those of other agencies.

If the information cannot be tested by use of these regular sources, specific requests may be made of the Office of Collection and Dissemination in order to tap outside sources for check data.

3) The EXTENT OF INFORMATION given by any source is as a rule scrappy, although often apparently specific. The Branch does not accept any statement as "COMPREHENSIVE" and challenges with rigid skepticism any so called authority.

4) When dealing with the Soviet Union, "timeliness" has a very elastic significance. Data when seemingly specific and apparently comprehensive pertains either to a period long passed by or far in the future. It is the job of the analyst to assemble gig-saw-like pieces of hints at information into a pattern vaguely resembling a picture seen "through a glass darkly" which he must date himself. And then, in the hope that he is guided by the grace of God, he must evaluate the range through which it fluctuates above and below the possible fact.

B. CHEMICALS

1. The analysis of the chemicals that follow is based upon large numbers of reports sent in by all of the IAC and [redacted] by 25X1X7 prisoners of war, by defectors, refugees and American and [redacted] industrial 25X6A companies. They have been carefully examined and the information evaluated on a broad basis, based upon experience. However, we have found that the best information to estimate plant capabilities, which is of major importance to us, has been derived from American companies which have supplied technical information, installed plants or have had engineers in the Orbit Areas. Vast quantities of information are still available from these domestic sources if they are tapped and if the companies are given time to hunt up the old information in their files and in the heads of the engineers and other individuals who contacted the Russians.

2. This information can be obtained by the various offices of [redacted] if 25X1A8a 25X1A8a they are properly staffed with qualified engineers. This Office can guide the [redacted] Offices as to the companies to be seen and in many cases the individuals to be contacted. We have found from experience that the Companies and the individuals are more than willing to supply this Office with any information that they have for whatever use we wish. However, the Chemical Industry is a very closely knit group, and as an industry they closely watch their international competitors. They are willing to supply this information only through qualified persons to groups in whom they have confidence. This information, much of which cannot be published, can be obtained from industry with a very limited staff as 90% of the chemical information is available in the New York District. Pittsburg, Niagara Falls and Wilmington can obtain most of the balance. Therefore, one qualified man working permanently in the New York Office and two men operating from this Office through the various [redacted] 25X1A8a Offices can adequately cover the chemical and chemical equipment industries. This will require a total of 3 men for chemical industrial contact.

3. Information supplied by the Embassies has, on the whole, been exceedingly unsatisfactory to this Branch. Most of the collections of interest to us have been made by the various Attaches of the military establishments. These Attaches, by direction, are not supposed to cover civilian industrial companies in the countries to which they are assigned. They are limited to the governmental installations. The State Department Foreign Service has sent in a limited number of excellent commodity reports, and in certain cases we have requested a follow up for additional data and studies on related products.

25X1A8a 4. The [redacted] reports covering the European Satellites have been good and in some cases excellent. However, the information from the USSR proper and Far East has been poor from a quantitative standpoint. As yet, they have been unable to supply us with follow-up information on inquiries based on their reports. They have also sent over the excellent reports collected by [redacted] 25X1X7

5. In the case of the G-2 reports, we feel that they have been tragically inadequate due to the necessity of filling in forms rather than supplying information. We have had repeated conferences with representatives of G-2 and with their travellers who have returned from foreign assignments and have endeavored to have the originals of the interrogations sent back for us to adequately exploit. We have offered to translate these documents ourselves as we feel and know that the information compiled in the finished reports is a very small portion of that supplied by the PWs and DPs. This is largely due to untrained interrogators to cover the chemical field. We have spent much time and energy in trying to get up an adequate questionnaire or guide sheet to supply these interrogators. We have seen reports which definitely state that industrial information has been left out as the report only covered scientific and technical information, also reports where definite figures have been left out of the report which we feel certain must have been inserted in

the originals. We have complained repeatedly of the collections guide put out by ID, and we understand that this has been taken up through higher authorities, but there is no evidence that anything has been done about it.

6. This situation has been partially corrected by [redacted]. They have 25X1A8a sent a qualified team to Europe and are sending back some excellent reports. This Office should send a similar team to cover the industrial side. This has been partially covered by a group sent over by [redacted] but it is our belief 25X1A8a that the personnel were not selected to cover the industrial aspects. This Branch will be glad to supply qualified personnel, on a rotating basis, as needed.

7. A-2, through their Wringer reports, have supplied much excellent information. However, again these reports exhibit glaring instances of complete failure to conduct logical follow through in questioning and examining sources on technical and industrial subjects. A-2 has cooperated with us fully and through their efforts we have been able to obtain information of mutual interest.

8. ONI has supplied a limited number of reports of interest to us, but only on subjects of special interest to them, such as hydrogen peroxide and a few rubber products. They, basically, are not interested in the chemicals aspect, and most of the reports are of a highly scientific, rather than industrial, nature.

9. We have had no contact with the collecting agencies of the State Department, and any requirements have been sent to them through our normal channels.

10. Much information is available in our own Industrial Register which has not been adequately exploited by this Branch. These reports are the large number of microfilms sent over, but they must be examined by special equipment in the Industrial Register and cannot be quickly scanned and irrelevant material thrown out. Every film must be completely scanned, and the percentage of material, per role, of interest to this Branch is
25X1X7 negligible. The [redacted] have sent over a large number of excellent reports
25X1X7 called [redacted]. (These have been collected and sent over as [redacted]). These 25X1A2g
are excellent and full reports, much better than the type sent in by G-2,
25X1X7 as the [redacted] do not follow a set form in making up their reports. They are long and detailed and cover every phase that the interrogatee may have covered. These have not been adequately covered by this Branch due to the fact that there is only one copy of the report and IR will not allow them to be taken from their files. It is impossible for our analysts to properly exploit these without having their own files for reference at the same time. We would like to get 2 college graduates, well-trained in chemicals, who can
25X1X7 scan the [redacted] and microfilm reports and abstract or call the individual report to the attention of the interested analyst.

11. The greatest weakness to us in the IR operation is the fact that there is no "product" classification. Under the present set-up it is necessary for us to examine individual plant files rather than being able to call for the individual product files for a country. We understand that the IR plans to set up a product index, but as yet has been unable to get proper personnel.

12. We have offered to assist them and the Library in properly indexing their materials to cover the large number of products in which we are interested. However, the Library, Industrial Register and the Special Division all use different indexes which make it an exceedingly difficult proposition. This seems to us to be a totally inadequate, unnecessary waste of time. In addition to the 3 types of indexes used, as mentioned above, we have the standard Government BID System which is an impossible proposition to

handle in covering the Chemical Industry. In order to code the documents properly for the 3 Service Divisions which should handle the commodity classifications, this Branch will require 2 additional college graduates who can mark the codes on the documents after they are marked by the analysts.

25X1A8a 13. [redacted] has collected a large amount of excellent data; however, the requirement for protection of the source has been greatly overdone. In many cases this Branch knows that certain companies of the Chemical Industry have supplied data to the Orbit countries. Also the travellers of these companies, who are constantly covering Europe in the interest of the company, report to their home offices in detail on the people they have seen, the companies and plants they have contacted, etc. However, it is impossible for us to call 25X1A8a for the reports collected by [redacted] on these individual companies. We feel that this can be easily corrected because we know from experience with the chemical companies that they are willing to let this Branch have any and all information in their files that we require. Therefore, if [redacted] will 25X1A8a appoint one representative from each Branch of this Division to ask for the complete reports or the names of the authors of these reports, it will greatly simplify the action activities of this Branch and will also greatly improve the evaluations that we make up and the reports that we turn out. The request for requirements given us by [redacted] are also difficult to fulfill 25X1A8a as the interest of the contact is carefully hidden in the form sent to us. Unless we know the field covered by the individual Company and the interest of the specific Contact, there is no way for us to make up proper questions for them to answer. This can be easily clarified by "clearing" one man in each Branch as above suggested. We also suggest that the travellers be requested to come to Washington more often for interrogation by interested 25X1A8a representatives of this Branch, of [redacted] and all other interested components of the IAC Agencies because round-table discussion covers an infinite number of points that no one individual can think of. Incidentally, none of this data is ever obtained by sending an unqualified [redacted] contact man to get 25X1A8a information from a highly technical, industrial, chemical engineer. We recommend that either a <u>highly qualified</u> stenotype operator or a good tape recorder be available in O/RR to record every one of such interrogations, in full.

14. The non-IAC Government Agencies have in their files much information concerning foreign industrial operations. OCD has been most cooperative in fulfilling requirements submitted by this Branch for such information. However, the volume of information in these non-IAC Agencies is so great and of such unknown character that we can adequately use any new employee in exploiting this material during the period of security investigation.

15. The relationships of this Branch with FDD have always been pleasant but not necessarily satisfactory. Much information comes in through [redacted] and in foreign documents, publications, etc. The priority for translation of 25X1A8a chemical information in FDD is exceedingly low and we believe that we are the only industry group who does not have some personnel assigned to their particular needs. Much of the data that is sent to them does not require complete translation, and we have repeatedly offered to go over this information with their translators and mark the data that we want translated, abstracted or forgotten. This would save a tremendous amount of time for them and would greatly improve and expedite the information that they are sending us. FDD has a tendency to translate long-winded, highly technical subjects which are composed in most part of formulas and calculations. Due to substantive nature of the contents, it must consume many hours of a competent translator. While this work is being undertaken, most worthwhile, wanted material is not being translated. Some of these translated articles might be used by one person in 1,000, but only on a university basis and not by economic intelligence personnel.

25X1A8a

O/RR is not alone in this evaluation, since this subject has been discussed with [redacted] and they rate these translations as of "no value." Much of the material has been "lifted" from US technical publications. In order to eliminate the translation of unwanted documents, the Chemicals Branch has sent a chemical guide to FDD which we hope will clarify this matter. References are continually being received in this Office from [redacted] or other 25X1X7 Agencies to foreign periodicals containing excellent information on production of chemicals in the USSR and Satellite countries. Unless these translations are specifically requested of FDD, they are never received. This indicates a weakness with respect to collection of foreign periodicals and/or a weakness with respect to FDD's exploitation of these documents. We expect to overcome these difficulties as soon as our analyzers with language experience are on our own staff, and we will then scan the documents ourselves and leave the basic translations to be made by FDD.

of the material is the lack of master plant cards of evaluated information. No suggestion is offered as to how these master cards should be accomplished, but somehow they should be prepared, not only for CIA's use, but for the use of all the other intelligence agencies IR services.

b. Biographic Intelligence Register. Ferrous Metallurgy Branch has used BIR on not more than a dozen occasions. Service on spot requests has been prompt and efficient. On requests for full biographic reports, the service has also been prompt and efficient, but coverage on industrial personalities is not as complete now as it will be at a later date. On scientists connected with the development of the ferrous metallurgy in the USSR more biographic material is available.

c. Library. The library service is prompt and efficient in general, and the Library Staff is untiring in its efforts to procure needed material and information from other government services. To date, information needed from card runs has not been too successful. Service is excellent, but the amount of extraneous material which usually turns up on a subject in a card run is overwhelming. This situation will be corrected in time, as ORR analysts code material pertinent to their subjects.

d. Division of Graphics, Map Library. Timely and efficient response to each request has been the experience of personnel in F/M.

e. Graphics Register. To date Ferrous Metallurgy Branch has had no occasion to use the services of Graphics Register for pictorial illustrations. On several instances, Graphic Register has prepared maps and charts as visual aids for studies and talks. Response to each request has been prompt and the illustrative material beautifully presented.

C. Ferrous Metals and Minerals

1. Evaluation of Source

a. Background material on the Iron and Steel Industry. The principal sources on background information on the iron and steel industry are technical publications, many of which are several years old, the Salt Mine report, [redacted] re- 25X1A8a
ports from US industrialists and technicians who have been associated with the Soviet industry and the files of the Industrial Register. These sources contain facts on analyses of ores, extent of reserves, locations of installations, some plant descriptive data, etc, which are not affected by the passage of time. In the field of technical publications there remains a vast amount of material which has not been tapped. Libraries and other depositories, not only in the US but throughout the world, contain publications which are potential sources of much valuable factual data. The uncovering of these data remains a problem, both in the selection of pertinent material and in the procurement and translation of the subject matter for the use of the analyst. Reports of
25X1A8a defectees, [redacted] reports, attaché reports and State Department reports have also been useful, but less comprehensive, in building up a story on the Soviet industry.

b. Current material on the Iron and Steel Industry. Little factual data has been published on recent developments in the industry. Much is released by the Soviets, but it is ambiguous and colored by propaganda and little concrete information can be garnered from it. In spite of security restrictions in the USSR, there is an occasional slip. The outstanding example of such an error was contained in "Ferrous Metallurgy in the New Five Year Plan", by I. P. Bardin and N. P. Bannyi, which was published in 1947. This book provided a clue upon which a firm estimate of Soviet raw steel production was predicated by the Ferrous Metallurgy Branch.

The most valuable material being received on the USSR are the trade agreements and reports of actual shipments between the East and the West. [redacted] 25X1A8a
and State Department representatives have been conscientious and successful in procuring this type of material for our use. On trade among the Orbit countries, data is particularly weak, although [redacted] has been able to procure 25X1A8a
some very useful statistical material. USFA, at the height of its efficiency provided invaluable statistics on shipments through key transportation points, but in the past year, these reports have almost ceased.

25X1A8a [redacted] was successful in procuring a US national who had broad and specific, recent knowledge on the production of coke in the USSR, the interrogation of whom provided invaluable facts on that industry to both the Ferrous Metallurgy and Chemical Branches of D/I.

25X1X7 Cooperation with the [redacted] was successful over a period of one year, during which time there was an exchange of information and ideas on an
25X1A9a informal basis through [redacted] correspondence. The [redacted] publications 25X1X7
are extremely useful.

Prisoner of War reports, though voluminous, have not provided much factual information, other than locating installations.

FDB abstracts are valuable and often provide useful bits of information that are not available from other sources.

Foreign broadcast reports are useful and particularly timely. Speeches made in the USSR, for example, the Bulganin talk on the Anniversary of the Revolution, reach analysts in their entirety weeks before they could be received through regular mail channels.

The most fertile field for late, authoritative information on the Soviet iron and steel industry lies in the Eastern German scientists, specialists and technicians who were taken to the Soviet Union after World War II and whose contracts are expiring this year. Several hundred of these specialists have been reported to have already returned to Eastern Germany. Some of these individuals have since slipped over into Western Germany. They should be located and thoroughly exploited by both [redacted] not only for the Ferrous Metallurgy 25X1A8a
Branch but for all other research organizations in CIA.

2. Evaluation of Services

a. Industrial Register. For plant information, Ferrous Metallurgy Branch is dependent almost entirely upon the card and document files of IR. The weakness

D. Non-Ferrous Metals and Minerals

On background material covering almost every phase of the mining industry we have found that the IR card files have been the greatest source of data. This is unevaluated material and much of it comes from [redacted] and 25X6A other foreign sources, and in many cases, has to be carefully weighed as to reliability. Next to the above source is the large literature in Russian but which has become increasingly barren since the middle 1930's. However, much greater emphasis should be placed on this material when competent personnel is made available for such research. In this same period, [redacted] has 25X1A8a gathered a great deal of information from American companies which furnished machinery and personnel to the Russians to bring their mineral industry up-to-date. Also a number of American and foreign engineers were taken into Russia under contract and their experience and notes are invaluable in many cases. Other sources have been the files of the Bureau of Mines, Geological Survey, Commerce Department and Tarrif Commission.

At the present time one of our chief sources of information are the 25X1A8a [redacted] reports covering current Russian newspapers and magazines. This source, together with the monitoring of foreign broadcasts from Russia and the Satellites, gives us a small amount of current information. In the re- 25X1A8a ports from [redacted] we get some indication of trade, both legitimate and clandestine, the only trouble being that this information is not consecutive so that there are gaps in the statistics. Also when needed we have asked 25X1A8a [redacted] for information but in very few cases have we had satisfactory returns to our requirements. Of course, this is understandable on the time angle but we suspect that it is due to our low priority position on the scale of requirements.

State Department despatches and reports from the Moscow Embassy are helpful in evaluating on-the-spot reports and are of use. The same is true of Attache reports from Army, Navy, and Air, but none of these add much to our technical needs. We receive a large volume of prisoner-of-war reports but these are of little use as most of the prisoners-of-war are engaged in manual labor and have little opportunity to get much information about mines or plants.

One class of personnel that has not been exploited are the Russian defectors and returned German scientists and technicians. This is a vast storehouse of information on the industrial and military potential of the Soviets that has been neglected ever since the close of the war. This is due partly to lack of trained interrogators and translators but mostly to the subject not being recognized as of the greatest importance. These people over the years become scattered and impossible to find again.

We continually check our estimates and data with [redacted] 25X1X7 and other foreign agencies, IAC agencies, specialists in other governmental agencies, engineers who follow our field here and abroad, and with anyone we think is reliable and doing similar research. Our final conclusions are never fully verified and it is only from the experience and familiarity with the metal or minerals in question that our analysts arrive at what they consider a sound estimate.

E. Special Commodities

The main sources of information on the fissionable materials are the Atomic Energy Commission and OSI. The Materials Division is currently in the midst of a discussion concerning the functions of ORR in this field. Thus at this time there is very little information on these commodities in the Branch.

Considerable information is available in DAI files on most of the other materials in the Special Commodities Branch, but because of the shortage of personnel this material has not yet been fully exploited. It is believed that full exploitation of IR, Library, OSI, IAC agencies, other government agencies, and [redacted] will be required to get the optimum results. 25X1A8a

F. PETROLEUM AND SOLID FUELS

25X1A8a 1. The best sources of information of interest to the Petroleum and Solid Fuels Branches are [redacted] FDD, Army intelligence reports and [redacted] 25X1A2g
25X1A8a reports. [redacted] Navy intelligence and Airforce intelligence are of some value as primary sources of information. [redacted] intelligence reports 25X1X7 are helpful, but largely as a means of confirmation.

2. It is considered that the State Department peripheral reports and the
25X6A exploitation of [redacted] technical specialists represent excellent potential sources for increased exploitation. Further, extensive and specialized interrogation of defectees and PW's could in all probability supply information which would be extremely valuable in filling gaps in current information.

3. State Department Embassies' reports, foreign broadcasts, US economic publications and US periodicals are not particularly helpful on the USSR beyond some selective confirmation. However, the periodicals and the State Department Embassies' reports in other areas are of value. Reports
25X1X7 from [redacted] have thus far been of little or no value.

4. Although there are various minor shortcomings in all sources of information, there is only one which the Petroleum and Solid Fuels Branches now consider worthy of concentrated attention. This is the exploitation
25X6A of [redacted] technical specialists, PW's and defectees. It is believed that a program which would provide not only for the interrogation of more such individuals, but interrogation by individuals specializing in various specific fields would be of considerable value. In the past reports the details as to the nature of facilities, commodities, procedures have been inadequate to permit analyses required.

5. The library facilities are considered adequate and are of first importance in the work of the Petroleum and Solid Fuels Branches. The Industrial Register is helpful for preliminary surveys, but beyond this has not been found of material aid. The Map library has been found entirely adequate in all requests to date and it is believed it represents a possibility for much greater assistance as the work in Petroleum and Solid Fuels progresses to a more advanced stage. The Biographic Register and the Graphic Register have thus far been relatively unexploited.

6. It is impractical to state the time required to fully exploit these facilities. As a specific subject or project is undertaken as part of the overall branch program, the available facilities are utilized to the extent that they can contribute. This time varies greatly in accordance with the project.